

REMARKS

Remarks to address the 112 rejection of claims 3, 10 and 14.

The Office Action has rejected claims 3, 10 and 14 under 35 U.S.C. 112 as being indefinite. In response, Applicants provide claim amendments for claims 3 and 10 and remarks for claim 14.

Applicants provide remarks below to support Applicants' claim amendments.

Claims 3 and 10:

Applicants have amended claims 3 and 10 to change "generating" to "generates". The change is reflected in the listing of claims above. Also in response to the Office Action comments of "the clarity of the relationship of the recited generated pulse to the previously recited pulse generation", Applicants submit that claim 3 ("said frame generates a frame pulse when said delay signal is generated for that frame") can be understood with reference to Figure 1 and 2. As shown in Figure 1 and the timing diagram of Figure 2, the frame pulse (i.e. 30) of claim 3 is different than the "pulse on said frame bus (i.e. 24)" of claim 1. Same remarks apply to claims 10 and 8.

Claim 14:

In response to the Office Action comments of "the frame pulse is unclear because its relationship to the previously recited claim pulse has not been clearly established", Applicants submit that claim 14 ("generating a frame pulse when said delay signal is generated for that frame") can be understood with reference to Figure 1 and 2. As shown in Figure 1 and the timing diagram of Figure 2, "generating a frame pulse when said delay signal is generated for that frame" (i.e. frame pulse. 30) is different than the "supplying said pulse to said frame bus (i.e. 24)" of claim 13.

Remarks to address the 102(e) rejection of claims 1-36.

The Office Action has rejected claims 1-36 under 35 U.S.C. 102(e) as being anticipated by Beyers (US 6072804). Applicants respectfully traverse the rejection of claims 1-36. In response, Applicants provide remarks below to support Applicants' traversal of the rejection.

Claim 1: Applicants submit that Beyers does not disclose Applicants' first element of claim 1 "a plurality of individual frames connected in series, each said frame comprising a pulse signal generator and a delay signal generator, at least one said frame also comprising a total count counter" (col. 2, line 66 – col. 3, line 12 of Beyers) as asserted by the Office Action. There is no library frame in a multi-frame tape library system disclosed by Beyers. In addition, the first claim element limitation of "each said frame comprising a pulse signal generator and a delay signal generator, at least one said frame also comprising a total count counter" is nowhere disclosed in Beyers.

Applicants submit that Beyers does not disclose Applicants' second element of claim 1, "a multi-channel bus coupled to each said frame" (col. 2, line 66 – col. 3, line 12 of Beyers) as asserted by the Office Action. Col. 2, line 66 – col. 3, line 12 of Beyers discloses cables and connectors for a daisy chained ring, not a multi-channel bus coupled to library frames as in Applicants' invention.

Applicants submit that Beyers does not disclose Applicants' second element of claim 1 limitation, "and comprising a frame bus for carrying information indicative of the presence of each said frame, and a power bus return bus carrying information indicative of the last frame in said series" (col. 3, lines 10-12 of Beyers) as asserted by the Office Action. A frame bus or power return bus are not disclosed in Beyers.

Applicants submit that Beyers does not disclose Applicants' claim 1 limitation of "wherein one of said frames being defined as a first frame" (col. 4, lines 17-20 of Beyers) as asserted by the Office Action. Instead a "first node of a daisy chain" is disclosed by Beyers. A node is not a library frame.

Applicants submit that Beyers does not disclose Applicants' claim 1 limitation of, "and adapted to receive a signal indicative of power being supplied to any one of said frames and generate a delayed signal, each subsequent frame receiving said delayed signal and generating a further delayed signal and each frame generating a pulse on said frame bus" (col. 4, lines 15-17 of Beyers) as asserted by the Office Action. Instead Beyers discloses when a cable is inserted into input or output connectors, a logic circuit detects this by the ground potential and routes the input/output signals to/from the appropriate connectors and input/output registers in a daisy chain. This is not related in any way to Applicants' invention that uses delayed signals and pulses to automatically detect the total count of frames within a modular multi-frame tape library system.

Applicants submit that Beyers does not disclose Applicants' claim 1 limitation of "wherein one of said frames being defined as said last frame and receiving said delayed signal and generating a signal to activate said power return bus" (col. 4, lines 26-31 of Beyers) as asserted by the Office Action. No power return bus or activation of a power return bus is disclosed in Beyers. Instead Beyers discloses a logic circuit to detect a last device in a daisy chain by sensing cable connections. This is not related in any way to Applicants' invention that receives a delayed signal and generates a signal to activate a power return bus.

Applicants submit that Beyers does not disclose Applicants' claim 1 limitation of, "wherein said total count counter being incremented by each said pulse on said frame bus until said power

return bus is activated” (col. 8, lines 5-9 of Beyers) as asserted by the Office Action. No power return bus or a total count counter being incremented by each said pulse on said frame bus until said power return bus is activated is disclosed in Beyers. Instead Beyers discloses a name command received by a node that increments the number represented by the node address bits, uses this number as its node address and sends the name command with its own node address in the node address bits to the next node. This is not related to Applicants’ invention.

Applicants respectfully submit that Applicants’ remarks above overcome the 102(e) rejection of independent claim 1. Applicants therefore submit that independent claim 1 is in condition for allowance.

Claims 2-7: Applicants respectfully submit that Applicants’ remarks above overcome the 102(e) rejection of independent claim 1 and that claims 2-7 depend upon an allowable independent claim 1. Applicants therefore submit that dependent claims 2-7 are in condition for allowance.

Claim 8: Applicants submit that Beyers does not disclose Applicants’ first element of claim 8 “a plurality of individual frames connected in series, at least one said frame also comprising a total count counter” (col. 2, line 66 – col. 3, line 12 of Beyers) as asserted by the Office Action. There is no library frame in a multi-frame tape library system disclosed by Beyers.

Applicants submit that Beyers does not disclose Applicants’ second element of claim 8, “a multi-channel bus for exchanging information and data between said frames indicative of the presence of each said frame and information indicative of the last frame in said series” (col. 2, line 66 – col. 3, line 12 of Beyers) as asserted by the Office Action. Col. 2, line 66 – col. 3, line 12 of

Beyers discloses cables and connectors for a daisy chained ring, not a multi-channel bus coupled to library frames as in Applicants' invention.

Applicants note that the Office Action comments regarding "a power bus return bus carrying information indicative of the last frame" (col. 3, lines 10-12 of Beyers) as asserted by the Office Action is not explicitly recited as an element of Applicants' claim 8 and is not disclosed by Beyers (see comments for claim 1).

Applicants note that the Office Action comments regarding "where one of said frames is a first frame" (col. 4, lines 17-20 of Beyers) as asserted by the Office Action is not explicitly recited as an element of Applicants' claim 8 and is not disclosed by Beyers (see comments for claim 1).

Applicants submit that the Office Action assertions regarding col. 4, lines 15-17, col. 4, lines 26-31 and col. 8 and lines 5-9 of Beyers are traversed based on remarks submitted above with reference to claim 1.

Applicants respectfully submit that Applicants' remarks above overcome the 102(e) rejection of independent claim 8. Applicants therefore submit that independent claim 8 is in condition for allowance.

Claims 9-12: Applicants respectfully submit that Applicants' remarks above overcome the 102(e) rejection of independent claim 8 and that claims 9-12 depend upon an allowable independent claim 8. Applicants therefore submit that dependent claims 9-12 are in condition for allowance.

Claim 13: Applicants submit that Beyers does not disclose Applicants' method to automatically detect the total count of frames within a modular multi-frame tape library system of claim 13.

Applicants submit that Beyers does not disclose Applicants' first element of claim 13 "coupling a plurality of frames to a multi-channel data bus comprising a frame bus and a power bus return bus" (col. 2, line 66 – col. 3, line 12 of Beyers) as asserted by the Office Action. There is no library frame in a multi-frame tape library system, frame bus or power bus return bus disclosed by Beyers. In fact Beyers only mentions "power" in one instance regarding power up of the system in Col. 5 line 42, "after power is initially applied to the system".

Applicants submit that Beyers does not disclose Applicants' third element of claim 13, "designating one of said frames as a last frame" (col. 3, lines 10-12 of Beyers) as asserted by the Office Action. Instead, col. 3, lines 10-12 of Beyers describes completing a ring by use of connectors and cables. There is no library frame or last frame disclosed.

Applicants submit that Beyers does not disclose Applicants' second element of claim 13, "designating one of said frames as a first frame" (col. 4, lines 17-20 of Beyers) as asserted by the Office Action, instead a "first node of a daisy chain" is disclosed by Beyers. A node is not a library frame.

Applicants submit that Beyers does not disclose Applicants' fourth element of claim 13, "said first frame receiving a signal indicative of power being supplied to any one of said frames and generating a first delayed signal and a pulse indicative of the presence of said first frame" (col. 4, lines 15-17 of Beyers) as asserted by the Office Action. Instead Beyers discloses when a cable is inserted into input or output connectors, a logic circuit detects this by the ground potential and routes the input/output signals to/from the appropriate connectors and input/output registers in a daisy chain. This is not related in any way to Applicants' invention that uses delayed signals and pulses to automatically detect the total count of frames within a modular multi-frame tape library system.

Applicants submit that Beyers does not disclose Applicants' seventh element of claim 13 limitation of, "generating a signal to activate said power return bus when said delayed signal reaches said last frame" (col. 4, lines 26-31 of Beyers) as asserted by the Office Action. No power return bus or activation of a power return bus is disclosed in Beyers. Instead Beyers discloses a logic circuit to detect a last device in a daisy chain by sensing cable connections. This is not related in any way to Applicants' invention that receives a delayed signal and generates a signal to activate a power return bus.

Applicants submit that Beyers does not disclose Applicants' eighth element of claim 13, "incrementing a register by each pulse until said power bus is activated" (col. 8, lines 5-9 of Beyers) as asserted by the Office Action. No power return bus or a total count counter being incremented by each said pulse on said frame bus until said power return bus is activated is disclosed in Beyers. Instead Beyers discloses a name command received by a node that increments the number represented by the node address bits, uses this number as its node address and sends the name command with its own node address in the node address bits to the next node. This is not related to Applicants' invention that uses delayed signals and pulses to automatically detect the total count of frames within a modular multi-frame tape library system.

Applicants respectfully submit that Applicants' remarks above overcome the 102(e) rejection of independent claim 13. Applicants therefore submit that independent claim 13 is in condition for allowance.

Claims 14-16: Applicants respectfully submit that Applicants' remarks above overcome the 102(e) rejection of independent claim 13 and that claims 14-16 depend upon an allowable

independent claim 13. Applicants therefore submit that dependent claims 14-16 are in condition for allowance.

Claim 17: Applicants submit that Beyers does not disclose Applicants' first element of claim 17 "a plurality of individual frames connected in series, each said frame comprising a pulse signal generator and a delay signal generator, at least one said frame also comprising an individual ID counter" (col. 2, line 66 – col. 3, line 12 of Beyers) as asserted by the Office Action. There is no library frame in a multi-frame tape library system disclosed by Beyers. In addition, the first claim element limitation of "each said frame comprising a pulse signal generator and a delay signal generator, at least one said frame also comprising an individual ID counter" is nowhere disclosed in Beyers.

Applicants submit that Beyers does not disclose Applicants' second element of claim 17, "a multi-channel bus coupled to each said frame" (col. 2, line 66 – col. 3, line 12 of Beyers) as asserted by the Office Action. Col. 2, line 66 – col. 3, line 12 of Beyers discloses cables and connectors for a daisy chained ring, not a multi-channel bus coupled to library frames as in Applicants' invention.

Applicants submit that Beyers does not disclose Applicants' second element of claim 17 limitation of "and comprising a frame bus for carrying information indicative of the presence of each said frame" (col. 3, lines 10-12 of Beyers) as asserted by the Office Action. A frame bus carrying information indicative of the last frame in said series is nowhere disclosed in Beyers. Applicants submit that Beyers does not disclose Applicants' claim 17 limitation of, "wherein one of said frames being defined as a first frame" (col. 4, lines 17-20 of Beyers) as asserted by the

Office Action, instead a "first node of a daisy chain" is disclosed by Beyers. A node is not a library frame.

Applicants submit that Beyers does not disclose Applicants' claim 17 limitation of "and adapted to receive a signal indicative of power being supplied to any one of said frames and generate a delayed signal, each subsequent frame receiving said delayed signal and generating a further delayed signal and each frame generating a pulse on said frame bus" (col. 4, lines 15-17 of Beyers) as asserted by the Office Action. Instead Beyers discloses when a cable is inserted into input or output connectors, a logic circuit detects this by the ground potential and routes the input/output signals to/from the appropriate connectors and input/output registers in a daisy chain. This is not related in any way to Applicants' invention that uses delayed signals and pulses to automatically detect the total count of frames within a modular multi-frame tape library system.

Applicants note that the Office Action comments regarding "wherein one of said frames being defined as said last frame and receiving said delayed signal and generating a signal to activate said power return bus" (col. 4, lines 26-31 of Beyers) as asserted by the Office Action is not explicitly recited as an element of Applicants' claim 17 and is not disclosed by Beyers (see comments for claim 1).

Applicants submit that Beyers does not disclose Applicants' claim 17 limitation of "each subsequent frame receiving said delayed signal and generating a further delayed signal and each frame generating a pulse on said frame bus; wherein at least one of said frames generating a frame pulse upon generation of that frame's delayed signal.

Applicants submit that Beyers does not disclose Applicants' claim 17 limitation of "and wherein said individual ID counter being incremented by each said pulse on said frame bus until said

frame pulse is detected” (col. 8, lines 5-9 of Beyers) as asserted by the Office Action. No individual ID counter being incremented by each said pulse on said frame bus until said frame pulse is detected is disclosed in Beyers. Instead Beyers discloses a name command received by a node that increments the number represented by the node address bits, uses this number as its node address and sends the name command with its own node address in the node address bits to the next node. This is not related to Applicants’ invention.

Applicants respectfully submit that Applicants’ remarks above overcome the 102(e) rejection of independent claim 17. Applicants therefore submit that independent claim 17 is in condition for allowance.

Claims 18-21: Applicants respectfully submit that Applicants’ remarks above overcome the 102(e) rejection of independent claim 17 and that claims 18-21 depend upon an allowable independent claim 17. Applicants therefore submit that dependent claims 18-21 are in condition for allowance.

Claim 22: Applicants submit that Beyers does not disclose Applicants’ first element of claim 22 “a plurality of individual frames connected together in series, at least one frame comprising an individual ID counter” (col. 2, line 66 – col. 3, line 12 of Beyers) as asserted by the Office Action. There is no library frame in a modular tape library system disclosed by Beyers. In addition, the first claim element limitation of “at least one said frame also comprising an individual ID counter” is nowhere disclosed in Beyers.

Applicants submit that Beyers does not disclose Applicants' second element of claim 22, "a multi-channel bus for exchanging information and data between said frames indicative of the presence of each said frame" (col. 2, line 66 – col. 3, line 12 of Beyers) as asserted by the Office Action. Col. 2, line 66 – col. 3, line 12 of Beyers discloses cables and connectors for a daisy chained ring, not a multi-channel bus coupled to library frames as in Applicants' invention. Applicants note that the Office Action comments regarding "a power bus return bus carrying information indicative of the last frame" (col. 3, lines 10-12 of Beyers) as asserted by the Office Action is not explicitly recited as an element of Applicants' claim 22 and is not disclosed by Beyers (see comments for claim 1).

Applicants note that the Office Action comments regarding "wherein one of said frames being defined as a first frame" (col. 3, lines 10-12 of Beyers) as asserted by the Office Action is not explicitly recited as an element of Applicants' claim 22 and is not disclosed by Beyers (see comments for claim 1).

Applicants submit that Beyers does not disclose Applicants' claim 22 limitation of "receive a signal indicative of power being supplied to any one of said frames and generate a pulse indicative of its presence and a delayed signal which is forwarded to the next frame in the series, each subsequent frame receiving said delayed signal and generating a further delayed signal and a pulse indicative of their presence; wherein at least one of said frames generating a frame pulse upon generation of that frame's delayed signal" (col. 4, lines 15-17 of Beyers) as asserted by the Office Action. Instead, Beyers discloses when a cable is inserted into input or output connectors, a logic circuit detects this by the ground potential and routes the input/output signals to/from the appropriate connectors and input/output registers in a daisy chain. This is not related in any way

to Applicants' invention that uses delayed signals and pulses to automatically detect the total count of frames within a modular multi-frame tape library system.

Applicants submit that Beyers does not disclose Applicants' claim 22 limitation of "and wherein said individual ID counter being incremented by each said pulse on said frame bus until said frame pulse is detected" (col. 8, lines 5-9 of Beyers) as asserted by the Office Action. No individual ID counter being incremented by each said pulse on said frame bus until said frame pulse is detected is disclosed in Beyers. Instead Beyers discloses a name command received by a node that increments the number represented by the node address bits, uses this number as its node address and sends the name command with its own node address in the node address bits to the next node. This is not related to Applicants' invention.

Applicants respectfully submit that Applicants' remarks above overcome the 102(e) rejection of independent claim 22. Applicants therefore submit that independent claim 22 is in condition for allowance.

Claims 23-26: Applicants respectfully submit that Applicants' remarks above overcome the 102(e) rejection of independent claim 22 and that claims 23-26 depend upon an allowable independent claim 22. Applicants therefore submit that dependent claims 23-26 are in condition for allowance.

Claim 27: Applicants submit that Beyers does not disclose Applicants' method to automatically detect the total count of frames within a modular multi-frame tape library system of claim 27.

Applicants submit that Beyers does not disclose Applicants' first element of claim 27 "coupling a plurality of frames to a multi-channel data bus comprising a frame bus" (col. 2, line 66 – col. 3, line 12 of Beyers) as asserted by the Office Action. There is no library frame in a multi-frame tape library system or frame bus disclosed by Beyers. In fact Beyers only mentions "power" in one instance regarding power up of the system in Col. 5 line 42: "after power is initially applied to the system".

Applicants note that the Office Action comments regarding "designating one of said frames as a last frame" (col. 3, lines 10-12 of Beyers) as asserted by the Office Action is not explicitly recited as an element of Applicants' claim 27 and is not disclosed by Beyers (see comments for claim 13).

Applicants submit that Beyers does not disclose Applicants' second element of claim 27, "designating one of said frames as a first frame" (col. 4, lines 17-20 of Beyers) as asserted by the Office Action, instead a "first node of a daisy chain" is disclosed by Beyers. A node is not a library frame.

Applicants submit that Beyers does not disclose Applicants' third element of claim 27, "said first frame receiving a signal indicative of power being supplied to any one of said frames and generating a first delayed signal and a pulse indicative of the presence of said first frame" or fourth element of claim 27, "supplying said pulse indicative of the presence of said first frame to said frame bus" (col. 4, lines 15-17 of Beyers) as asserted by the Office Action. Instead Beyers discloses when a cable is inserted into input or output connectors, a logic circuit detects this by the ground potential and to routes the input/output signals to/from the appropriate connectors and input/output registers in a daisy chain. This is not related in any way to Applicants' invention

that uses delayed signals and pulses to automatically detect the total count of frames within a modular multi-frame tape library system.

Applicants submit that Beyers does not disclose Applicants' fifth element of claim 27, "supplying said delayed signal to a subsequent frame, each said subsequent frame generating a delayed signal and a pulse indicative of the presence of each frame and supplying the pulses to said frame bus" (col. 4, lines 26-31 of Beyers) as asserted by the Office Action. No frame or supplying the pulses to said frame bus is disclosed in Beyers. Instead Beyers discloses a logic circuit to detect a last device in a daisy chain by sensing cable connections. This is not related in any way to Applicants' invention that has each said subsequent frame generating a delayed signal and a pulse indicative of the presence of each frame and supplying the pulses to said frame bus. Applicants submit that Beyers does not disclose Applicants' eighth and ninth elements of claim 27, "generating a signal upon generation of said delayed signal and incrementing a register by each pulse until said signal is generated" (col. 8, lines 5-9 of Beyers) as asserted by the Office Action. No signal is generated upon generation of said delayed signal and register incremented by each pulse until said signal is generated is disclosed in Beyers. Instead, Beyers discloses a name command received by a node that increments the number represented by the node address bits, uses this number as its node address and sends the name command with its own node address in the node address bits to the next node. This is not related to Applicants' invention that uses delayed signals and pulses to automatically detect the total count of frames within a modular multi-frame tape library system.

Applicants respectfully submit that Applicants' remarks above overcome the 102(e) rejection of independent claim 27. Applicants therefore submit that independent claim 27 is in condition for allowance.

Claims 28-30: Applicants respectfully submit that Applicants' remarks above overcome the 102(e) rejection of independent claim 27 and that claims 28-30 depend upon an allowable independent claim 27. Applicants therefore submit that dependent claims 28-30 are in condition for allowance.

Claim 31: Applicants respectfully submit that Applicants' remarks above overcome the 102(e) rejection of independent claims 1 and 17 and that claim 31 includes both of the counter limitations of the first elements of claims 1 and 17, "at least one said frame also comprising a total count counter and an individual ID counter" and therefore the same arguments given above for claims 1 and 17 apply to claim 31. Applicants therefore submit that claim 31 is in condition for allowance.

Claims 32-33: Applicants respectfully submit that Applicants' remarks above overcome the 102(e) rejection of independent claim 31 and that claims 32-33 depend upon an allowable independent claim 31. Applicants therefore submit that dependent claims 32-33 are in condition for allowance.

Claim 34: Applicants respectfully submit that Applicants' remarks above overcome the 102(e) rejection of independent claims 13 and that claim 34 includes the elements of claim 13 and an

additional limitation of two counters: "incrementing a first counter by each pulse until said power bus is activated; generating a frame pulse when said delay signal is generated for that frame; and incrementing a second counter by each said pulse on said frame bus until said frame pulse is generated" and therefore the same arguments given above for claim 13 apply to claim 34. Applicants therefore submit that claim 34 is in condition for allowance.

Claims 35-36: Applicants respectfully submit that Applicants' remarks above overcome the 102(e) rejection of independent claim 34 and that claims 35-36 depend upon an allowable independent claim 34. Applicants therefore submit that dependent claims 35-36 are in condition for allowance.

The foregoing amendments and arguments are submitted to place the application in condition for allowance. Applicants respectfully submit that claims 1-36 are patentable over Beyers (US 6072804) under 35 U.S.C. 102. Applicants respectfully submit that Applicants' claim amendments and remarks eliminate the 112 rejection of claims 3, 10 and 14. Applicants respectfully request allowance for claims 1-36.

Respectfully submitted,

McIntosh, et. al.

By: Allen K. Bates 7-14-04

Allen K. Bates, (#50,276)
Agent for Applicants

From: IBM Corporation
Intellectual Property Law
9000 S. Rita Road (90A/9032)
Tucson, AZ 85744
Telephone: (520) 799-2800